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EXAMINER
NGUYEN, TAM V

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Office Action Summary	Application No.	Applicant(s)
	09/755,503	MILLER ET AL.
	Examiner	**Art Unit**
	Tam V Nguyen	2172

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 January 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-71</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-71</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>10</u> .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

1.   Claims 1-71 are pending in this office action. Claims 1-1 are presented for

examination. This office action is in response to the filing dated 01/05/01.

Information Disclosure Statement

2.   The reference cited in the IDS, PTO-1449, Paper No. 6-8, have been considered.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-16 and 65-71 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Fowlow (US 6260078B1) in view of Simpson (US 5268998).

With respect to claims 1 and 65, a multi-query data visualization process

comprising: inputting a plurality of query objects into a data processing device, (col. 3,

lines 26-41); identifying features within each of the plurality of query objects that allow

comparison to a body of data stored in a database, (col. 5, lines 59-col. 6, lines 18).

Fowlow does not clearly discloses, "Determining relative relationships between

each of the plurality of query objects and the body of data; and displaying points along a

plurality of rays, wherein a position of each of the displayed points corresponds to the

determined relative relationship between each respective one of the plurality of query

objects and the body of data."

However, Simpson teaches determining relative relationships between each of the plurality of query objects and the body of data, (col. 7, lines 14-46); and displaying points along a plurality of rays, wherein a position of each of the displayed points corresponds to the determined relative relationship between each respective one of the plurality of query objects and the body of data, (col. 24, lines 4-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fowlow because a computer assembles the image points for delivery to a computer monitor screen for display of the object as it would directly appear in the alternative geometry.

As to claims 2 and 66, Simpson further discloses the process of claim 1, wherein displaying includes placing a small graphic entity at an end of each of the plurality of rays to represent a respective one of the plurality of query objects, (col. 24, lines 4-35).

As to claims 3 and 69, Simpson further discloses the process of claim 1, wherein displaying includes locating the plurality of rays to have a common origin, (col. 24, lines 4-35).

As to claims 4 and 70, Simpson further discloses the process of claim 3, wherein displaying includes locating the plurality of rays to radiate outwardly from the common origin at equally-spaced angles from one another, (col. 24, lines 4-35).

As to claims 5 and 71, Simpson further discloses the process of claim 1, wherein displaying includes locating the plurality of rays to have a common origin and further comprising determining a critical distance from the common origin, wherein points on the plurality of rays falling within the critical distance meet or exceed a relevancy threshold and points on the plurality of rays outside the critical distance do not meet the relevancy threshold, (col. 24, lines 4-35).

As to claims 6 and 68, Simpson further discloses the process of claim 5, further comprising adjusting the critical distance in response to user input, (col. 7, lines 14-46).

As to claims 7 and 67, Simpson further discloses the process of claim 1, further comprising: re-determining relative relationships between each of the plurality of query objects and the body of data in response to user input; and rearranging the positions of the displayed points in response to re determining, (col. 24, lines 4-35).

As to claim 8, Simpson further discloses the process of claim 1, further comprising: deleting an element from the body of data in response to user input; re-determining relative relationships between each of the plurality of query objects and the body of data in response to deleting; and rearranging the positions of the displayed points in response to re determining, (col. 7, lines 14-46).

As to claim 9, Simpson further discloses the process of claim 1, wherein determining comprise accessing data corresponding to the occurrence of textual information within a plurality of documents and displaying comprises depicting usage of the textual information within the documents corresponding to portions of the plurality of query objects, (col. 7, lines 14-46).

As to claim 10, Simpson further discloses the process of claim 1, wherein determining comprises: organizing data in the database and the plurality of query objects in an n-dimensional space, 9col. 7, lines 14-46); and reducing a number n of dimensions in which the data in the database and the plurality of query objects are organized to two dimensions using a Sammon projection, (col. 7, lines 14-46).

As to claim 11, Simpson further discloses the process of claim 1, wherein identifying comprises representing each of the plurality of query objects and each datum in the body of data as an n-dimensional vector in an n-dimensional vector space, (col. 7, lines 14-46).

As to claim 12, Simpson further discloses the process of claim 11, wherein determining comprises calculating a similarity measure between each of the plurality of query objects and each datum of the body of data using some portion of the n-dimensional vectors, (col. 7, lines 14-46).

As to claim 13, Simpson further discloses the process of claim 12, wherein determining further comprises: reducing a number n of dimensions in which the body of data and the query objects are represented to three or fewer dimensions using a multi - dimensional scaling method, where the similarity measures between each of the plurality of query objects and the body of data are weighted more heavily than the similarity measures among data within the body of data, (col. 7, lines 14-46); and wherein displaying comprises displaying points corresponding to the plurality of query objects and points corresponding to the body of data according to the three or fewer dimensions, (col. 7, lines 14-46).

As to claim 14, the process of claim 1, wherein displaying further comprises displaying points corresponding to data from the database along each of the plurality of rays in a two dimensional display, wherein positions of the displayed points correspond to the relative relationships, (col. 24, lines 4-35).

As to claim 15, Simpson further discloses the process of claim 1, wherein determining comprises: determining thematic boundaries within each element contained in the database, (col. 24, lines 4-35); breaking elements into sub elements at the determined thematic boundaries; determining relative relationships between each of the plurality of query objects and the sub elements, (col. 24, lines 4-35); and displaying points corresponding to the sub elements along each of the plurality of rays, wherein

positions of the displayed points correspond to the relative relationships, (col. 24, lines 4-35).

As to claim 16, Simpson further discloses the process of claim 1, wherein determining comprises: breaking elements into sub elements, (col. 24, lines 4-35); determining relative relationships between each of the plurality of query objects and the sub elements, (col. 24, lines 4-35); and displaying points corresponding to the sub elements along each of the plurality of rays, wherein positions of the displayed points correspond to the relative relationships, (col. 24, lines 4-35).

5.   Claims 17-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simpson (US 5268998) in view of Fowlow (US 6260078B1).

As to claims 17, 33, and 49, Simpson disclose a data visualization apparatus comprising: an image device configured to provide a visual image, (col. 29, lines 38-65); and digital processing circuitry coupled with the image device and configured to, (col. 29,l lines 38-65); determine relative relationships between each of the plurality of query objects and the body of data, (col. 7, lines 14-46); and control the image device to depict points corresponding to data from the database along each of a plurality of rays, wherein positions of the displayed points correspond to the relative relationships, (col. 24,lines 4-35).

Simpson does not clearly disclose, "Input a plurality of query objects; identify features within each of the plurality of query objects that allow comparison to a body of data stored in a database."

However, Fowlow teaches input a plurality of query objects, (col. 3, lines 26-41); identify features within each of the plurality of query objects that allow comparison to a body of data stored in a database, (col. 5, lines 59-col. 6, lines 18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Simpson because the client queries the object request broker to determine if there is an applet serve available within the system that may be used to obtain particular applet execution code.

As to claim 18, Simpson further discloses the data visualization apparatus of claim 17, wherein the digital processing circuitry configured to display includes digital processing circuitry configured to display a small graphic entity at an end of each of the plurality of rays to represent a respective one of the plurality of query objects, (col. 24, lines 4-35).

As to claim 19, Simpson further discloses the data visualization apparatus of claim 17, wherein the digital processing circuitry configured to display includes digital processing circuitry configured to display the plurality of rays to have a common origin, (col. 24, lines 4-35).

As to claim 20, Simpson further discloses the data visualization apparatus of claim 19, wherein the digital processing circuitry configured to display includes digital processing circuitry configured to display the plurality of rays to radiate outwardly from the common origin at equally-spaced angles from one another, (col. 24, lines 4-35).

As to claim 21, Simpson further discloses the data visualization apparatus of claim 17, wherein the digital processing circuitry configured to display includes digital processing circuitry configured to display the plurality of rays to have a common origin and further comprising digital processing circuitry configured to determine a critical distance from the common origin, wherein points on the plurality of rays falling within the critical distance meet or exceed a relevancy threshold and points on the plurality of rays outside the critical distance do not meet the relevancy threshold, (col. 24, lines 4-35).

As to claim 22, Simpson further discloses the data visualization apparatus of claim 21, wherein the digital processing circuitry is further configured to adjust the critical distance in response to user input, (col. 24, lines 4-35).

As to claim 23, Simpson further discloses the data visualization apparatus of claim 17, wherein the digital processing circuitry is further configured to: re-determine relative relationships between each of the plurality of query objects and the body of data in response to user input; and control the image device to rearrange positions of the displayed points in response to the re-determined relationship, (col. 24, lines 4-35).

As to claim 24, Simpson further discloses the data visualization apparatus of claim 17, wherein the digital processing circuitry is further configured to: delete an element from the body of data in response to user input; re-determine relative relationships between each of the plurality of query objects and the body of data in response to deleting; and control the image device to rearrange the positions of the displayed points in response to re-determining, (col. 24, lines 4-35).

As to claim 25, Simpson further discloses the data visualization apparatus of claim 17, wherein the digital processing circuitry configured to determine comprises digital processing circuitry configured to access data corresponding to the occurrence of textual information within a plurality of documents and the digital processing circuitry configured to control the image device comprises digital processing circuitry configured to depict usage of the textual information corresponding to portions of the query objects appearing within the documents via the image device, (col. 29, lines 38-65).

As to claim 26, Simpson further discloses the data visualization apparatus of claim 17, wherein the digital processing circuitry configured to determine comprises digital processing circuitry configured to: organize data in the database and the plurality of query objects in an n-dimensional space, (col. 7, lines 14-46); and reduce a number n of dimensions in which the data in the database and the plurality of query objects are organized to two dimensions using a Sammon projection, (col. 7, lines 14-46).

As to claim 27, Simpson further discloses the data visualization apparatus of

claim 17, wherein the digital processing circuitry configured to identify comprises digital

processing circuitry configured to represent each of the plurality of query objects and

each datum in the body of data as an n-dimensional vector in an n-dimensional vector

space, (col. 7, lines 14-4).

As to claim 28, Simpson further discloses the data visualization apparatus of

claim 27, wherein the digital processing circuitry configured to determine comprises

digital processing circuitry configured to calculate a similarity measure between each of

the plurality of query objects and each datum of the body of data using some portion of

the n-dimensional vectors, (col. 29, lines 38-65).

As to claim 29, Simpson further discloses the data visualization apparatus of

claim 28, wherein the digital processing circuitry configured to determine further

comprises digital processing circuitry configured to: reduce a number n of dimensions in

which the body of data and the query objects are represented to three or fewer

dimensions using a multi- dimensional scaling method, where the similarity measures

between each of the plurality of query objects and the body of data are weighted more

heavily than the similarity measures among data within the body of data, (col. 7, lines

14-46; and wherein the digital processing circuitry configured to display comprises

digital processing circuitry configured to display points corresponding to the plurality of

query objects and points corresponding to the body of data according to the three or
fewer dimensions, (col. 29, lines 38-65).

As to claim 30, Simpson further discloses the data visualization apparatus of
claim 17, wherein the digital processing circuitry configured to control the image device
comprises digital processing circuitry configured to control the image device to display
points corresponding to data from the database along each of the plurality of rays in two
dimensions, wherein positions of the displayed points correspond to the relative
relationships, (col. 29, lines 38-65).

As to claim 31, Simpson further discloses the data visualization apparatus of
claim 17, wherein the digital processing circuitry configured to determine relative
relationships comprises digital processing circuitry configured to: determine thematic
boundaries within each element contained in the database, (col. 29, lines 38-65); break
elements into sub elements at the determined thematic boundaries; and determine
relative relationships between each of the plurality of query objects and the sub
elements, (col. 29, lines 38-65); and wherein the digital processing circuitry configured
to control the image device to display points comprises digital processing circuitry
configured to display points corresponding to sub elements along each of the plurality of
rays, wherein positions of the displayed points correspond to the relative relationships,
(col. 29, lines 38-65).

As to claim 32, Simpson further discloses the data visualization apparatus of claim 17, wherein the digital processing circuitry configured to determine relative relationships comprises digital processing circuitry configured to, (col. 29, lines 38-65): break elements into sub elements; and determine relative relationships between each of the plurality of query objects and the sub elements, (col. 29, lines 38-65); and wherein the digital processing circuitry configured to control the image device to display points comprises digital processing circuitry configured to display points corresponding to sub elements along each of the plurality of rays, wherein positions of the displayed points correspond to the relative relationships, (col. 29, lines 38-65).

As to claim 34, Simpson further discloses the computer readable medium comprising computer usable code of claim 33, wherein the computer usable code configured to display includes computer usable code configured to display a small graphic entity at an end of each of the plurality of rays to represent a respective one of the plurality of query objects, (col. 24, lines 4-35).

As to claim 35, Simpson further discloses the computer readable medium comprising computer usable code of claim 33, wherein the computer usable code configured to display includes computer usable code configured to display the plurality of rays to have a common origin, (col. 24, lines 4-35).

As to claim 36, Simpson further discloses the computer readable medium comprising computer usable code of claim 35, wherein the computer usable code configured to display includes computer usable code configured to display the plurality of rays to radiate outwardly from the common origin at equally-spaced angles from one another, (col. 24, lines 4-35).

As to claim 37, Simpson further discloses he computer readable medium comprising computer usable code of claim 33, wherein the computer usable code configured to display includes computer usable code configured to display the plurality of rays to have a common origin and further comprising computer usable code configured to determine a critical distance from the common origin, wherein points on the plurality of rays falling within the critical distance meet or exceed a relevancy threshold and points on the plurality of rays outside the critical distance do not meet the relevancy threshold, (col. 24, lines 4-35).

As to claim 38, Simpson further discloses the computer readable medium comprising computer usable code of claim 37, wherein the computer usable code is further configured to adjust the critical distance in response to user input, (col. 7, lines 14-46).

As to claim 39, Simpson further discloses the computer readable medium comprising computer usable code of claim 33, wherein the computer usable code is

further configured to: re-determine relative relationships between each of the plurality of query objects and the body of data in response to user input, (col. 7, lines 14-46); and control the image device to rearrange the positions of the displayed points in response to the re-determined relationships, (col. 7, lines 14-46).

As to claim 40, Simpson further discloses the computer readable medium comprising computer usable code of claim 39, wherein the computer usable code is further configured to: delete an element from the body of data in response to user input; re-determine relative relationships between each of the plurality of query objects and the body of data in response to deleting; and control the image device to rearrange the positions of the displayed points in response to re-determining, (col. 14, lines 14-46).

As to claim 41, Simpson further discloses the computer readable medium comprising computer usable code of claim 33, wherein the computer usable code configured to determine comprises computer usable code configured to access data corresponding to the occurrence of textual information within a plurality of documents and the computer usable code configured to control the image device comprises computer usable code configured to depict usage of the textual information within the documents that correspond to portions of the plurality of query objects, (col. 14, lines 14-46).

As claim 42, Simpson further discloses the computer readable medium comprising computer usable code of claim 33, wherein the computer usable code configured to determine comprises computer usable code configured to: organize data in the database and the plurality of query objects in an n-dimensional space; and reduce a number n of dimensions in which the data in the database and the plurality of query objects are organized to two dimensions using a Sammon projection, (col. 7, lines 14-54).

As to claim 43, Simpson further discloses the computer readable medium comprising computer usable code of claim 33, wherein the computer usable code configured to identify comprises computer usable code configured to represent each of the plurality of query objects and each datum in the body of data as an n-dimensional vector in an n-dimensional vector space, (col. 7, lines 14-54).

As to claim 44, Simpson further discloses the computer readable medium comprising computer usable code of claim 43, wherein the computer usable code configured to determine comprises computer usable code configured to calculate a similarity measure between each of the plurality of query objects and each datum of the body of data using some portion of the n-dimensional vectors, (col. 7, lines 14-54).

As to claim 45, Simpson further discloses the computer readable medium comprising computer usable code of claim 44, wherein the computer usable code

configured to determine further comprises computer usable code configured to: reduce

a number n of dimensions in which the body of data and the query objects are

represented to three or fewer dimensions using a multi-dimensional scaling method,

where the similarity measures between each of the plurality of query objects and the

body of data are weighted more heavily than the similarity measures among data within

the body of data, (col. 7, lines 14-54); and wherein the digital processing circuitry

configured to display comprises digital processing circuitry configured to display points

corresponding to the plurality of query objects and points corresponding to the body of

data according to the three or fewer dimensions, (col. 7, lines 14-54).

As to claim 46, Simpson further discloses the computer readable medium

comprising computer usable code of claim 33, wherein the computer usable code

configured to control the image device comprises computer usable code configured to

control the image device to display points corresponding to data from the database

along each of the plurality of rays in two dimensions, wherein positions of the displayed

points correspond to the relative relationships, (col. 29, lines 38-65).

As to claim 47, Simpson further discloses the computer readable medium

comprising computer usable cod of claim 33, wherein the computer usable code

configured to determine comprises computer usable code configured to: determine

thematic boundaries within each element contained in the database; break elements

into sub elements at the determined thematic boundaries, (col. 29, lines 38-65); and

determine relative relationships between each of the plurality of query objects and the sub elements, (col. 29, lines 38-65); and wherein the computer usable cod configured to control the image device comprises computer usable code configured to display points corresponding to sub elements along each of the plurality of rays, wherein positions of the displayed points correspond to the relative relationships, (col. 24, lines 4-35).

As to claim 48, Simpson further discloses the computer readable medium comprising computer usable code of claim 33, wherein the computer usable code configured to determine comprises computer usable code configured to: break elements into sub elements, (col. 24, lines 4-35); and determine relative relationships between each of the plurality of query objects and the sub elements, (col. 24, lines 4-35); and wherein the computer usable code configured to control the image device comprises computer usable code configured to display points corresponding to sub elements along each of the plurality of rays, wherein positions of the displayed points correspond to the relative relationships, (col. 24, lines 4-35).

As to claim 50, Simpson further discloses the signal according to claim 49, wherein the computer usable code configured to display includes computer usable code configured to display a small graphic entity at an end of each of the plurality of rays to represent a respective one of the plurality of query objects, (col. 23, lines 1-col. 24, lines 68).

As to claim 51, Simpson further discloses the signal according to claim 49, wherein the computer usable code configured to display includes computer usable code configured to display the plurality of rays to have a common origin, (col. 24, lines 4-35).

As to claim 52, Simpson further discloses the signal according to claim 51, wherein the computer usable code configured to display includes computer usable code configured to display the plurality of rays as radiating outwardly from the common origin at equally-spaced angles from one another, (col. 7, lines 14-54).

As to claim 53, Simpson further discloses the signal according to claim 49, wherein the computer usable code configured to display includes computer usable code configured to display the plurality of rays to have a common origin, and further comprising computer usable code configured to determine a critical distance from the common origin, wherein points on the plurality of rays falling within the critical distance meet or exceed a relevancy threshold and points on the plurality of rays outside the critical distance do not meet the relevancy threshold, (col. 24, lines 4-35).

As to claim 54, Simpson further discloses the signal according to claim 53, wherein the computer usable code is further configured to adjust the critical distance in response to user input, (col. 7, lines 14-46).

As to claim 55, Simpson further discloses the signal according to claim 49, wherein the computer usable code is further configured to: re-determine relative relationships between each of the plurality of query objects and the body of data in response to user input, (col. 29, lines 38-65); and control the image device to rearrange the positions of the displayed points in response to the re-determined relative relationships, (col. 29, lines 38-65).

As to claim 56, Simpson further discloses the signal according to claim 49, wherein the computer usable code is further configured to: delete an element from the body of data in response to user input, (col. 24, lines 4-35); re-determine relative relationships between each of the plurality of query objects and the body of data in response to deletion; and control the image device to rearrange the positions of the displayed points in response to re-determining, (col. 29, lines 38-65).

As to claim 57, Simpson further discloses the signal according to claim 49, wherein the computer usable code configured to determine comprises computer usable code configured to access data corresponding to the occurrence of textual information within a plurality of documents and the computer usable code configured to control the image device comprises computer usable code configured to depict usage of the textual information within the documents that correspond to portions of the plurality of query objects, (col. 7, lines 14-54).

As to claim 58, Simpson further discloses the signal according to claim 49, wherein the computer usable code configured to determine comprises computer usable code configured to: organize data in the database and the plurality of query objects in an n-dimensional space, (col. 7, lines 14-54); and reduce a number n of dimensions in which the data in the database and the plurality of query objects are organized to two dimensions using a Sammon projection, (col. 7,lines 14-54).

As to claim 59, Simpson further discloses the signal according to claim 49, wherein the computer usable code configured to control the image device comprises computer usable code configured to control the image device to display points corresponding to data from the database along each of the plurality of rays in two dimensions, wherein positions of the displayed points correspond to the relative relationships, (col. 29, lines 38-65).

As to claim 60, Simpson further discloses the signal according to claim 49, wherein the computer usable code configured to determine comprises computer usable code configured to: determine thematic boundaries within each document contained in the database, (col. 7, lines 14-54); break documents into subdocuments at the determined thematic boundaries; and determine relative relationships between each of the plurality of query objects and the subdocuments, (col. 7, lines 14-54); and wherein the computer usable code configured to control the image device comprises computer usable code configured to display points corresponding to subdocuments along each of

the plurality of rays, wherein positions of the displayed points correspond to the relative

relationships, (col. 29, lines 38-65).

As to claim 61, Simpson further discloses the signal according to claim 49,

wherein the computer usable code configured to determine comprises computer usable

code configured to: break documents into subdocuments; and determine relative

relationships between each of the plurality of query objects and the subdocuments, (col.

7, lines 14-54); and wherein the computer usable code configured to control the image

device comprises computer usable code configured to display points corresponding to

subdocuments along each of the plurality of rays, wherein positions of the displayed

points correspond to the relative relationships, (col. 24, lines 4-35).

As to claim 62, Simpson further discloses the signal according to claim 49,

wherein the computer usable code configured to identify comprises computer usable

code configured to represent each of the plurality of query objects and each datum in

the body of data as an n-dimensional vector in an n dimensional vector space, (col. 7,

lines 14-54).

As to claim 63, Simpson further discloses the signal according to claim 62,

wherein the computer usable code configured to determine comprises computer usable

code configured to calculate a similarity measure between each of the plurality of query

objects and each datum of the body of data using some portion of the n-dimensional vectors, (col. 7, lines 14-54).

As to claim 64, Simpson further discloses the signal according to claim 63, wherein the computer usable code configured to determine further comprises computer usable code configured to: reduce a number n of dimensions in which the body of data and the query objects are represented to three or fewer dimensions using a multi-dimensional scaling method, where the similarity measures between each of the plurality of query objects and the body of data are weighted more heavily than the similarity measures among data within the body of data; and wherein the digital processing circuitry configured to display comprises digital processing circuitry configured to display points corresponding to the plurality of query objects and points corresponding to the body of data according to the three or fewer dimensions, (col. 7, lines 14-54).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Szabo (US 5966126) shows graphic user interface for database system.

Ohmaye et al. (US 5544305) shows system and method for creating and executing interactive interpersonal computer simulations.

Bala (US 5731814) shows method and apparatus for identifying an object

selected on a computer output display.

Contact Information

7.　**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam V Nguyen whose telephone number is (703) 305-3735. The examiner can normally be reached on 7:30AM-5: 00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Yen Vu can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for formal communications and (703) 746-7240 for informal communications.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, Virginia 22202. Fourth Floor (Receptionist).

8.　Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

TV:tv

01/20/03

JEAN M. CORRIELUS
PRIMARY EXAMINER